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CENTRAL INTELLIGENCE AGENCY

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THIS IS UNEVALUATED INFORMATION

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Turbine Manufacture in the German Democratic Republic

1. A conference on the manufacture of steam turbines was held in Dresden in early February, at which were present Dipl. Ing. Kuge (Bergmann-Borsig), Weisleder (EKM, Halle), Prof. Hahn (EKM Designing Office Dresden), and a representative of the Ministry for Machine Construction. The conference devoted most of its time to the problems of raw materials, and the manufacture of turbine blades. Following are the findings of the conference:

(a) The supplies of blade material promised (by the Ministry) have not materialised. A good heat-resistant chromemolybdemum steel could be produced in the German Democratic Republic, if the necessary quantities of alloying metals were available. Attempts to manufacture a serviceable stainless steel in Hennigsdorf have failed. The future is black, since Prof. Maurer, who was working on this problem, recently had a motor accident, and is in a hospital suffering from a severe concussion.

(b) The Ministry wishes that production of steam turbine blades be transferred immediately to the Fortuna factory in Suhl. Cancellation of Soviet Reparations Orders for small arms has resulted in 1,200 workers being unemployed in that factory. The milling machines required for the manufacture of turbine blades are available there. VVR Lowa, Goerlitz, and Bergmann-Borsig, Berlin, oppose this proposal since they are engaged almost exclusively in repair work, for which blades must be made individually, and the Suhl project would necessitate the manufacture of large quantities. Furthermore, materials are not available in sufficient quantities.

(c) The Kabelwerk Oberspree is a rival of the Fortuna factory. Here the National Prize winner Czempil produces blades by a stamping process. The finish of the blades is good, but the dies have so far not yet survived the guaranteed 3,000 blades per die.

(d) The Görlitz factory is building two 12,500 kw steam turbines.

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2. The Görlitz gas-turbine recently survived successfully a test run without load. The output turbine was run with a load for a short time only. Great secrecy was enforced, but the turbine is not of importance. Compression is very low, and there is no heat exchanger; it is purely an experimental machine.

3. The combustion chamber of the Dresden gas turbine (G-18-A) has been under test recently. The first tests failed because of leakages in the inlet pipes, and insufficient air, but combustion was good in the later tests, in spite of the large diameter (1200 mm.) and the fact that there is only one vaporizer. However, temperature distribution in the chamber proved unsatisfactory, and the chamber will evidently have to be modified radically.